Installation Guide

Wyse® R Class Conversion to WES7

Wyse® USB Firmware Tool™ Release 1.10

Issue: 102910
PN: 883887-18L Rev. B

Copyright Notices

© 2010, Wyse Technology Inc. All rights reserved.

This manual and the software and firmware described in it are copyrighted. You may not reproduce, transmit, transcribe, store in a retrieval system, or translate into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, any part of this publication without express written permission.

End User License Agreement (“License”)

A copy of the Wyse Technology End User License Agreement is included in the software and provided for your reference only. The License at http://www.wyse.com/license as of the purchase date is the controlling licensing agreement. By copying, using, or installing the software or the product, you agree to be bound by those terms.

Trademarks

The Wyse logo and Wyse are trademarks of Wyse Technology Inc. Other product names mentioned herein are for identification purposes only and may be trademarks and/or registered trademarks of their respective companies. Specifications subject to change without notice.

Restricted Rights Legend

You acknowledge that the Software is of U.S. origin. You agree to comply with all applicable international and national laws that apply to the Software, including the U.S. Export Administration Regulations, as well as end-user, end-use and country destination restrictions issued by U.S. and other governments. For additional information on exporting the Software, see http://www.microsoft.com/exporting.

Ordering Information

For availability, pricing, and ordering information in the United States and Canada, call 1-800-GET-WYSE (1-800-438-9973) or visit us at http://www.wyse.com. In all other countries, contact your sales representative.

Contents

1 Introduction *1*

Kit Contents *1*
Overview *2*
Wyse Technical Support *2*
- Related Documentation and Services *2*
- Wyse Online Community *2*

2 Installing R90L Thin Client Flash and RAM *3*

Requirements *3*
Procedures *4*
What's Next *6*

3 Installing WES7 Firmware *7*

Requirements *7*
Procedures *7*
Troubleshooting *13*
- USB Keys - Troubleshooting Boot Issues *13*
- SanDisk Cruiser Flash Drives - Troubleshooting Partition Issues *13*

This page intentionally blank.

1 Introduction

This guide provides step-by-step instructions to convert R90L thin clients from XPe to WES7.

Caution

WES7 firmware requires R class thin clients to have a minimum of 4 GB flash and 2 GB RAM.

Tip

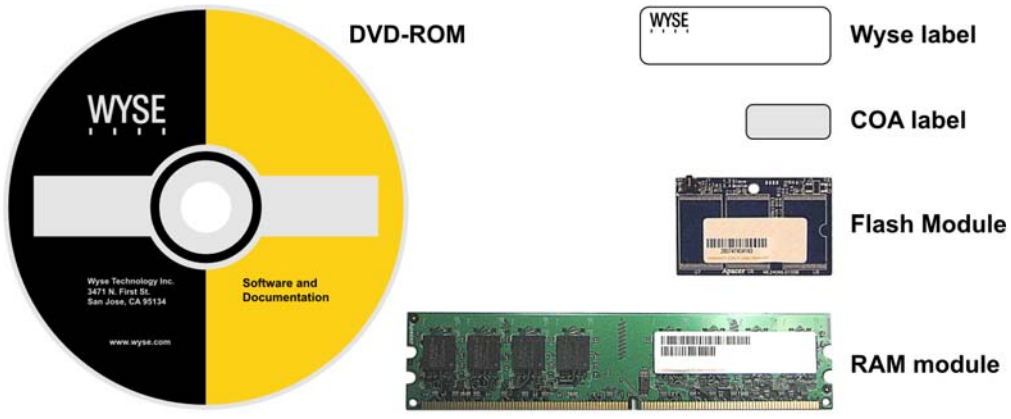
After converting your thin clients, obtain any available firmware update at http://www.wyse.com/serviceandsupport/support/downloads.asp.

Kit Contents

The conversion kit can include:

- *Conversion Software Assembly DVD-ROM*
- *Flash module*
- *RAM module*
- *Wyse Conversion Labels* (you must attach a Wyse label to each converted thin client)
- *Microsoft License Labels* (you must attach a COA label to each converted thin client)

Figure 1 Kit contents (items may look different or not be included in your kit)



The *Conversion Software Assembly DVD-ROM* contains:

- *A PDF of this Reference Guide*
- *Wyse USB Firmware Tool Release 1.10*
- *R Class WES7 Conversion Image* folder containing the following files:
  - bios.img
  - cmos.img
  - commandsXml.xml
  - CRC.Txt
  - initrd.pxe
  - mbr.img
  - par1.img
  - vmlinuz

Overview

To convert your R class thin clients to WES7:

1. (*Optional*) If you need to perform a hardware installation (install new flash and RAM), complete "Installing R90L Thin Client Flash and RAM."
2. (*Required*) Complete "Installing WES7 Firmware."

Wyse Technical Support

To access Wyse technical resources, visit http://www.wyse.com/support. If you still have questions, you can submit your questions using the Wyse Self-Service Center (on the Wyse.com home page, go to **Support > Knowledge Base > Home** tab) or call Customer Support at 1-800-800-WYSE (toll free in U.S. and Canada). Hours of operation are from 6:00 A.M. to 5:00 P.M. Pacific Time, Monday through Friday.

To access international support, visit http://www.wyse.com/global.

Related Documentation and Services

Fact Sheets containing the features of hardware models are available on the Wyse Web site. Go to http://www.wyse.com/products, click the *Thin Computing Hardware* link, click the link for your hardware model, and then click the link for the Fact Sheet.

Administrator and other documentation for your thin client model are available at: http://www.wyse.com/manuals.

Wyse Online Community

Wyse maintains an online community where users of our products can seek and exchange information on user forums. Visit the Wyse Online Community forums at: http://community.wyse.com/forum.

2 Installing R90L Thin Client Flash and RAM

This chapter contains information for users of Wyse R90L thin clients who must install new flash and RAM. If you are installing firmware only, you can skip this chapter and proceed to"Installing WES7 Firmware."

Requirements

- Small Phillips screwdriver
- Needle-nose pliers
- (Optional) Container for holding screws

Warning

Flash and RAM modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

Procedures

Step 1: Remove the R90L Thin Client Left Side Cover

Caution

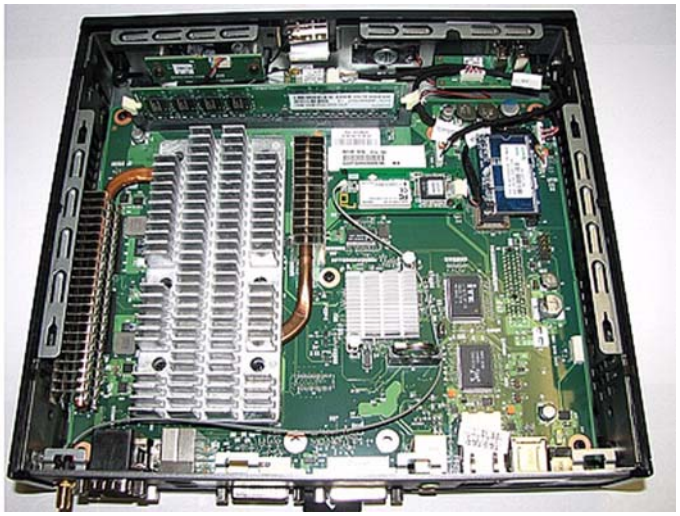
Follow all precautions listed in the Quick-Start Guide that came with your thin client for disconnecting and reconnecting the thin client.

1. Perform a proper shutdown of the thin client by closing all files and ending your session, and then press the power button to turn off the thin client.
2. Unplug the power cord and power adapter, remove all of the cables from the rear of the thin client, and then detach the vertical foot.
3. Position the thin client horizontally, and then remove the screws from the top and bottom of the thin client using a small Phillips screwdriver as shown in Figure 2.

Figure 2 Removing the top and bottom screws

4. Slide the left side cover toward the rear of the device and remove it to expose the main board as shown in Figure 3. Notice that the rear of the thin client is positioned at the bottom of the photo.

Figure 3 Left side cover removed to expose the main board



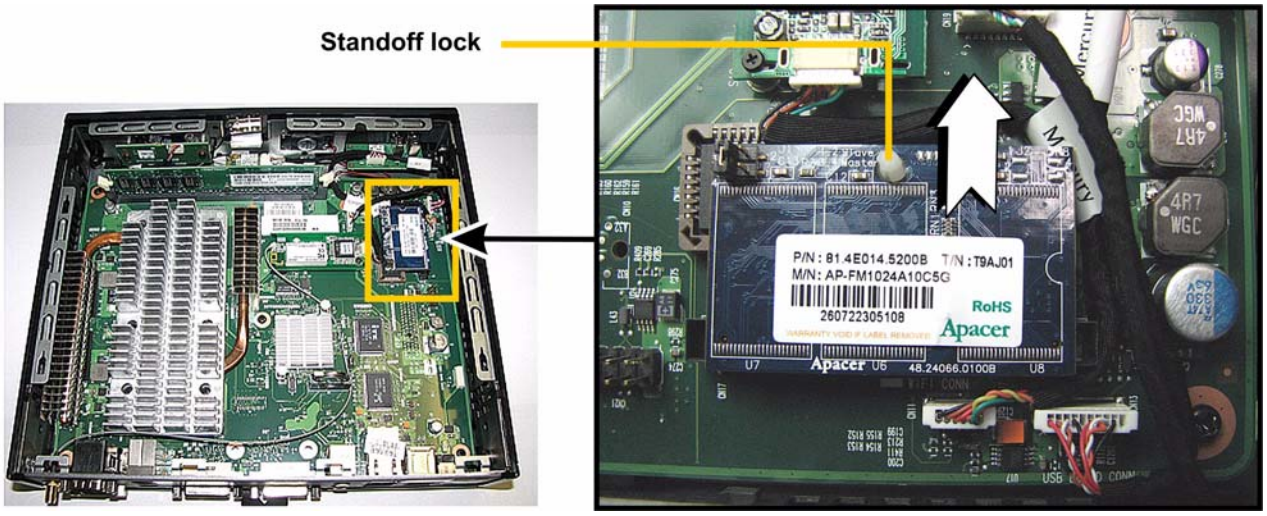
Step 2: Install the R90L Flash Module

Warning

Flash modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

1. Note where the connector of the flash module is located in Figure 4. Use needle-nose pliers to squeeze the plastic standoff lock as you rock the flash module back and forth to remove it from the socket.

Figure 4 Removing the existing flash module



2. Install the new flash module in the reverse order of removing the original flash module. Carefully press the flash module onto the standoff lock and connector, making sure to lock it into place.

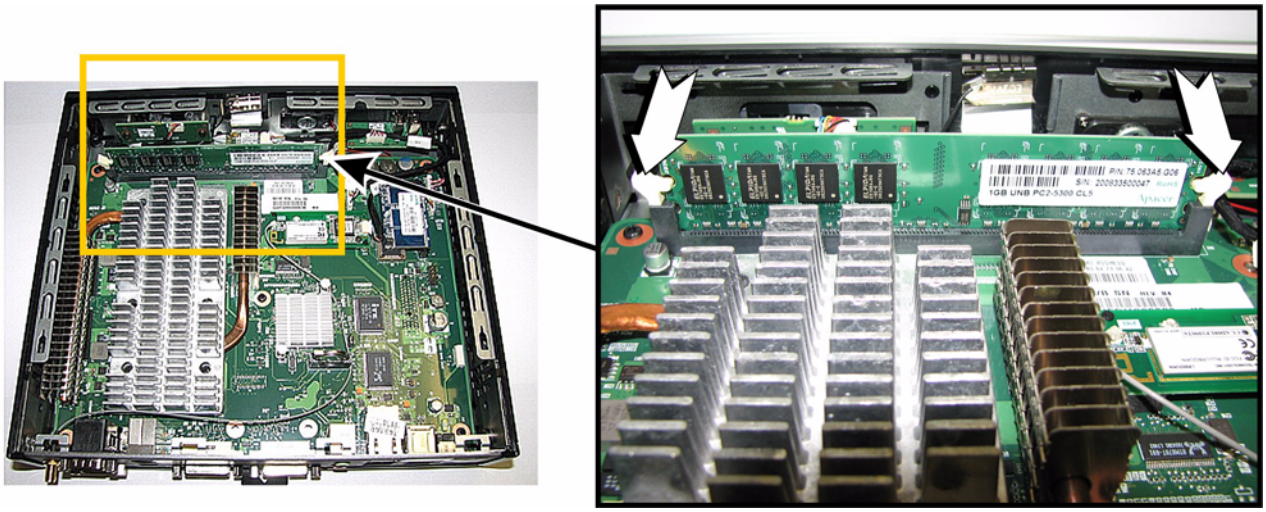
Step 3: Install the R90L RAM Module

Warning

RAM modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

1. Unlock the two locking clamps at either side of the RAM module by pushing in the direction of the arrows as shown in Figure 5.
2. Remove the RAM module.

Figure 5 Removing the existing RAM module



3. Insert the new RAM module into the connector of the original RAM module.
4. Carefully press down on the RAM module until the locking clamps lock it into place.

Step 4: Reassemble the R90L Thin Client

1. Replace the left side cover in the reverse order as described in "Step 1: Remove the R90L Thin Client Left Side Cover."
2. Attach the vertical foot.
3. Reconnect the video display, keyboard, mouse, network cable, and power adapter to the thin client before connecting to an electrical outlet.

Caution

Do not turn on the thin client. The thin client is ready to re-image, however the flash module does not contain an operating system. Turning on power to your thin client without firmware will display the error message “NO OPERATING SYSTEM FOUND.”

What’s Next

Continue with "Installing WES7 Firmware."

3 Installing WES7 Firmware

This chapter includes the requirements and procedures you need to install and use Wyse® USB Firmware Tool™ to update your thin client to WES7 firmware.

Requirements

- Windows XP Professional SP3 or Windows 2003 Server
- USB key size should be 4 GB or larger (up to 16 GB tested—see "USB Keys - Troubleshooting Boot Issues")
- (*For a firmware only installation*) Windows XP Embedded build 587 or later on the thin client

Procedures

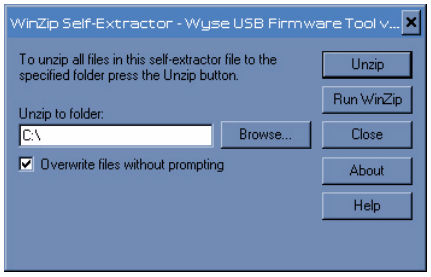
Step 1: Copy the R Class WES7 Conversion Image Folder to Your Local Hard Drive

Navigate to the *R Class WES7 Conversion Image* folder (contained on the *Conversion Software Assembly DVD-ROM*) and copy it to your local hard drive.

Step 2: Install Wyse USB Firmware Tool 1.10

1. Navigate to the *Wyse USB Firmware Tool v1.10_GA.exe* (contained on the *Conversion Software Assembly DVD-ROM*) and double-click it to execute the file and open the *WinZip Self-Extractor* dialog box.

Figure 6 Extract files to your hard drive (C:\USBFT110)



2. Enter **C:\USBFT110** in the **Unzip to folder** box, and then click **Unzip** to extract all files from the *Wyse USB Firmware Tool v1.10_GA.exe* file into the **C:\USBFT110** directory. The default directory for the extracted files is **Wyse USB Firmware Tool**.

Caution

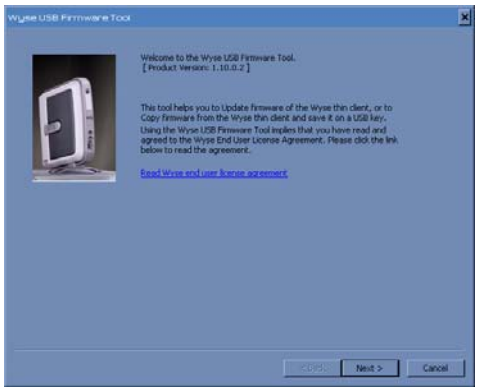
It is not recommended to use your desktop for the destination directory as there are several files that will be extracted from the .exe file.

3. Create a shortcut on the desktop for the *Wyse USB Firmware Tool.exe* file.

Step 3: Use Wyse USB Firmware Tool to Configure a Single USB Key to Install Firmware

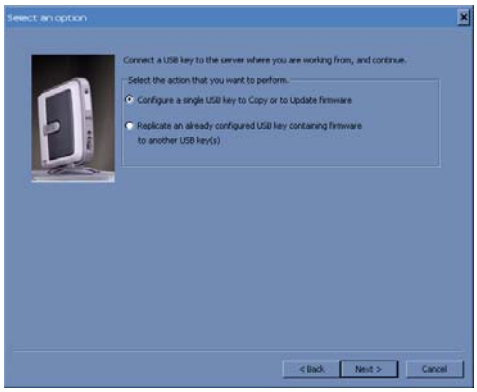
1. Double-click the shortcut to run the tool and open the *Wyse USB Firmware Tool* wizard (the welcome page provides the product version and description, and a link to view the Wyse end user license agreement).

Figure 7 Wyse USB Firmware Tool wizard


Wyse USB Firmware Tool
Welcome to the Wyse USB Firmware Tool.
[Product Version: 1.10.0.2]
This tool helps you to Update firmware of the Wyse thin client, or to Copy firmware from the Wyse thin client and save it on a USB key.
Using the Wyse USB Firmware Tool implies that you have read and agreed to the Wyse End User License Agreement. Please click the link below to read the agreement.
Read Wyse end user license agreement
< Back
Next >
Cancel

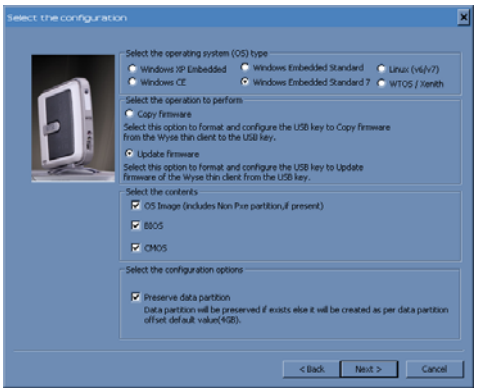
2. Click **Next** to open the **Select an Option** dialog box.

Figure 8 Configuration options


Select an option
Connect a USB key to the server where you are working from, and continue.
Select the action that you want to perform.
Configure a single USB key to Copy or to Update firmware
Replicate an already configured USB key containing firmware to another USB key(s)
< Back
Next >
Cancel

3. Select the **Configure a single USB key to Copy or Update firmware** option, and then click **Next** to open the **Select the Configuration** dialog box.

Figure 9 Update firmware options


Select the configuration
Select the operating system (OS) type
Windows XP Embedded
Windows Embedded Standard
Linux (v6/v7)
Windows CE
Windows Embedded Standard 7
WTOS / Xenith
Select the operation to perform
Copy firmware
Select this option to format and configure the USB key to Copy firmware from the Wyse thin client to the USB key.
Update firmware
Select this option to format and configure the USB key to Update firmware of the Wyse thin client from the USB key.
Select the contents
OS Image (includes Non Pxe partition,if present)
BIOS
CMOS
Select the configuration options
Preserve data partition
Data partition will be preserved if exists else it will be created as per data partition offset default value(4GB).
< Back
Next >
Cancel

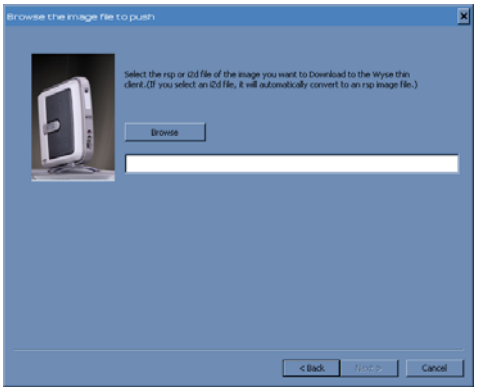
4. Select the **Windows Embedded Standard 7** OS type option.
5. Select the **Update Firmware** operation to perform option.

Tip

Although the **Preserve data partition** check box is automatically selected to preserve any existing data partition, you can clear the check box if you want to remove the existing data in the data partition.

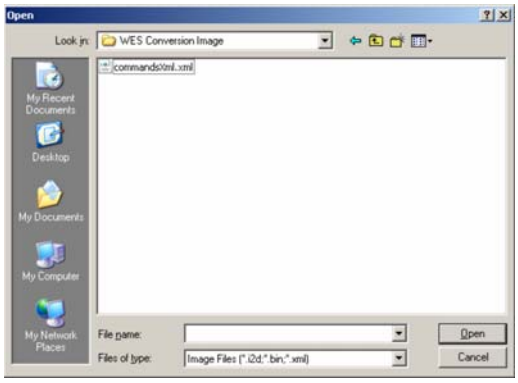
6. Select all three contents options (**OS Image**, **BIOS**, and **CMOS**).
7. Click **Next** to open the browse dialog box.

Figure 10 Browse for image file


Browse the image file to push
Select the rsp or i2d file of the image you want to Download to the Wyse thin client. (If you select an i2d file, it will automatically convert to an rsp image file.)
Browse
< Back
Next >
Cancel

8. Click **Browse**.

Figure 11 Browse to select commandsXml.xml



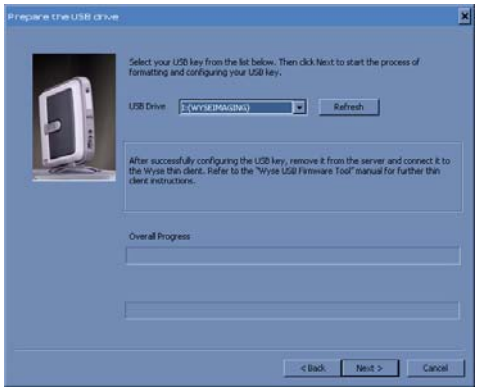
9. Navigate to the *R Class WES7 Conversion Image* folder *on your hard drive* (this is the location you selected in "Step 1: Copy the R Class WES7 Conversion Image Folder to Your Local Hard Drive"), click on the **commandsXml.xml** file to select it, and then click **Open**.

Caution

Do not use the **commandsXml.xml** file directly from the *Conversion Software Assembly DVD-ROM*.

10. In the browse dialog box, click **Next** to open the **Prepare the USB Drive** dialog box.

Figure 12 Prepare USB drive


Prepare the USB drive
Select your USB key from the list below. Then click Next to start the process of formatting and configuring your USB key.
USB Drive
Refresh
After successfully configuring the USB key, remove it from the server and connect it to the Wyse thin client. Refer to the "Wyse USB Firmware Tool" manual for further thin client instructions.
Overall Progress
< Back
Next >
Cancel

11. Select the USB key onto which you want the configurations (you can use **Refresh** as needed to recognize an inserted USB key), and then click **Next**. The progress bars show the overall progress and task progress.

12. After configuration, click **Finish** to close the wizard and then remove the configured USB key for use (you will use the configured USB key on your *target* devices).

Caution

Before using any configured USB key on a target device (to *push* firmware), you must configure the target device to boot from the configured USB key as described in "Step 4: Use the Configured USB Key to Install Firmware on Each Thin Client."

Step 4: Use the Configured USB Key to Install Firmware on Each Thin Client

On each thin client you want to convert, use one of the following options to configure it to boot from the configured USB key:

Caution

It is highly recommended that you use the one-time boot menu, as it will not modify your default BIOS configurations.

- To enter and use the one-time boot menu: Attach the configured USB key to the thin client (be sure it is shut down). During boot, press and hold the **P** key. Select the **USB HDD** option (displaying your USB key vendor name) and press **Enter**. Follow the process prompts.
- To enter and change the BIOS Setup Utility: Attach the configured USB key to the thin client (be sure it is shut down). During boot, press and hold the **Delete** key. Enter the password **Fireport** (this is case sensitive) and press **Enter**. Select the **Hard Disk Boot Priority** option and press **Enter**. Select the **USB HDD** option (displaying your USB key vendor name) and move it to the 1 position by using the + key. Save the BIOS settings and reboot. Follow the process prompts.

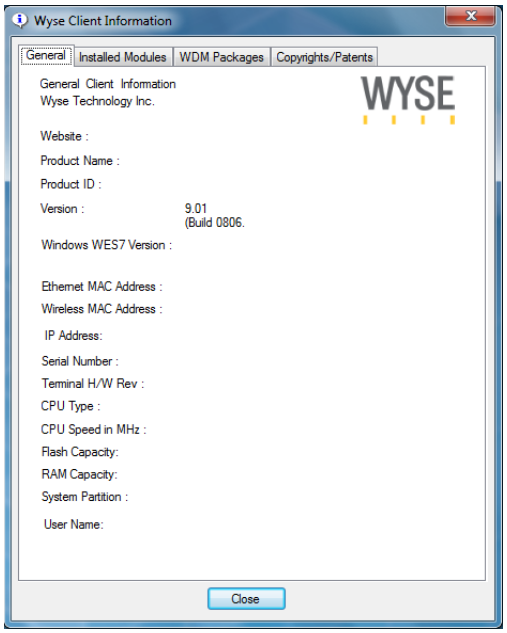
Tip

When booting a *target* device from the configured USB key (*containing the contents to be pushed to a target device*), you will be prompted to continue with the *push* process (to continue, type **y** and press **Enter**). Once the *push* process is complete, you will be prompted to reboot (to reboot, press **Enter** and remove the USB key).

Step 5: Verifying Thin Client Operation

After the thin client reboots, you can verify the *Version* and that your general client information is correct.

Figure 13 Client Information (blank example)



1. On the *General* tab of the *Client Information* window (**Start** > **All Programs > Wyse Client Information**), verify the following:
   - *Version* is **9.01 Build 0806**.
2. Click **OK** to close the *Client Information* window. The thin client is ready for operation and setup by an administrator.

Tip

For security, automatic logon to a *User* desktop is enabled on the thin client by default (and is a member of the *User* group; *not* a member of the *Administrator* group). To log on as a different user or an administrator: Use the *Log off* button (**Start > Log off**) to log off the current desktop while holding down the SHIFT key until the *Log On* window displays. Log on as follows (passwords are case sensitive):
Administrators - default *Username* is **administrator** and default *Password* is **Wyse#123**.
Users - default *Username* is **user** and default *Password* is **Wyse#123**.
Administrator and other documentation for your thin client model are available at: http://www.wyse.com/manuals.

Step 6: Attach a Wyse Conversion Label and Microsoft License Label on Each Converted Thin Client

The conversion kit is supplied with *Wyse Conversion Labels* and *Microsoft License Labels* that must be attached to each thin client as shown in Figure 14. Be sure you have purchased the amount of labels you need.

Caution

Failure to install the labels may cause delays in service and support. The serial number must be given to a Customer Support Technician to validate entitlement to support and service from Wyse. Failure to do so will result in the original operating system being loaded on the device and is in breach of your license agreement.

Figure 14 Placement of labels on the R90L

Step 7: Obtain a Firmware Update

After converting your thin clients, obtain any available firmware update at http://www.wyse.com/serviceandsupport/support/downloads.asp.

Warning

Use of the firmware on more than one device requires that you first purchase from Wyse additional copies of, or licenses to, the firmware. Contact your local Wyse distributor or Wyse Inside Sales at 1-800-800-9973 option 1 or 1-408-473-1200 option 1.

Troubleshooting

This section contains general troubleshooting information.

USB Keys - Troubleshooting Boot Issues

Due to different manufacturing processes on USB keys (and the variety of them), not all brands have been tested with the Wyse USB Firmware Tool. If you experience problems booting from a configured USB key, it is recommended that you try a different brand of USB key. The following list of USB keys have been successfully tested with the Wyse USB Firmware Tool:

- Kingston Data Traveler 4 GB
- Kingston Data Traveler 8 GB
- SanDisk Cruzer micro 4 GB
- SanDisk Cruzer micro 8 GB
- SanDisk Cruzer micro 16 GB
- Transcendent 4GB

SanDisk Cruiser Flash Drives - Troubleshooting Partition Issues

Problem: How can I properly use a SanDisk Cruiser flash drive to image supported devices using the Wyse USB Firmware Tool? (KB17735)

Solution: SanDisk flash drives come with support for U3 (for details on U3, see http://www.u3.com). When you initially use these drives, you are prompted to select the use for the drive: *Apps and Storage* or only *Storage*. If you select the *Apps and Storage* option, the drive will create two partitions, one of which is identified as a CD and is a read only partition. This partition sometimes prevents the Wyse USB Firmware Tool to properly prepare the USB key for imaging a device. To resolve this problem you can do one of the following:

- Go to http://www.sandisk.com, search in the SanDisk Knowledge Base for document **2550**, and then follow the instructions in the documentation.
- Go to http://www.sandisk.com/DriverDownload/driverList.asp, select **USB Flash Drives** from the *Select Product Type* list, click **Find Driver**, select **U3 LaunchPad Remover**, click **Continue**, and then download and use the *U3 Launchpad Remover* according to the instructions.

Installation Guide

Wyse® R Class Conversion to WES7
Issue: 102910

Written and published by:
Wyse Technology Inc., October 2010

Created using FrameMaker® and Acrobat®